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MRID No. 431932-31

AC 229263 =  
129171 Imazamox

## DATA EVALUATION RECORD

1. **CHEMICAL:** AC 229,263  
Shaughnessey No. 128847.
2. **TEST MATERIAL:** AC 229,263 technical; lot no. AC 6935-63;  
97.1% active ingredient; a white powder.
3. **STUDY TYPE:** 72-1(c). Freshwater fish acute toxicity test.  
Species tested: rainbow trout (*Onchorhynchus mykiss*)
4. **CITATION:** Yurk, J.J. and J.D. Wisk. 1994. Acute Toxicity  
of AC 299,263 to the Rainbow Trout (*Onchorhynchus mykiss*).  
Under Flow-Through Test Conditions. Laboratory Project ID  
No. 3933010-0200-3140. Prepared by Environmental Science &  
Engineering, Inc. Submitted by American Cyanamid Company,  
Princeton, NJ.
5. **REVIEWED BY:**  
  
F. Nicholas Mastrotta  
Biologist  
OPP/EFED/EEB  
USEPA  
  
Signature: *F. Nicholas Mastrotta*  
Date: *Nov 16, 2004*
6. **APPROVED BY:**  
  
Daniel D. Rieder  
Head, Section 3  
OPP/EFED/EEB  
USEPA  
  
Signature: *D. Rieder*  
Date: *11/16/04*
7. **CONCLUSIONS:** This study is scientifically sound and meets  
the guideline requirements for an acute toxicity test using  
a coldwater fish [guideline no. 72-1(c)]. Based on mean  
measured concentrations, the 96-hour LC<sub>50</sub> of AC 299,263 was  
> 122 mg AI/L, classifying this chemical as practically  
nontoxic to the rainbow trout. The NOEC was 122 mg AI/L.
8. **RECOMMENDATIONS:** N/A.
9. **BACKGROUND:** N/A.
10. **DISCUSSION OF INDIVIDUAL TESTS:** N/A.



11. **MATERIALS AND METHODS:**

- A. **Test Animals:** Juvenile rainbow trout (*Onchorhynchus mykiss*) were obtained from Mount Lassen Trout Farms, Inc. in Red Bluff, CA. The fish were acclimated for 54 days prior to the initiation of the definitive test, during which time they were fed trout chow. No mortality occurred during the 48 hours prior to testing.

Weights of a representative sample of trout at the start of the test ranged from 0.64 to 0.82 g. Their standard lengths ranged from 34 to 42 mm.

- B. **Test System:** Filtered well water was used for the dilution water. The water had hardness of 258-280 mg/L as  $\text{CaCO}_3$  and pH of 7.4-7.7. A semi-annual chemical analysis showed that the water was not contaminated by metals, PCB's, organochlorines, or organophosphates. Stock solution was prepared by dissolving the appropriate amount of test substance into the dilution water without the use of a solvent.

The definitive test was conducted under flow-through conditions using a proportional dilution system. The 10.6 L glass test chambers were filled with approximately 5 L of dilution water or test solution. The flow rate was approximately 5.29 volume additions every 24 hours. Test chambers were kept in a water bath under fluorescent lighting. The photoperiod was 16 hours light and 8 hours dark with a 30 min transition period between light and dark.

- C. **Dosage:** Based on a range-finding test, five nominal concentrations [15.6, 25.9, 43.2, 72.0, and 120 mg active ingredient (ai)/l] and a dilution water control were selected for testing.
- D. **Design:** Ten fish were indiscriminately added to each test chamber. Two replicate test chambers were used at each test level. All chambers were observed once every 24 hours for mortality and sublethal effects. Test organisms were not fed and the solutions were not aerated during the test.

Temperature was measured continuously in one test chamber and daily in all test chambers. Dissolved

oxygen concentration (DO) and pH were measured daily in each test chamber.

Samples of the control and treatment solutions were taken at test initiation and termination for detection of the test material using high performance liquid chromatography (HPLC).

**E. Statistics:** Statistical analysis was not conducted due to the lack of response to the test substance.

- 12. REPORTED RESULTS:** Mean measured concentrations were determined to be 16.7, 25.7, 40.6, 69.2, and 122 mg ai/l which represent values of 92% to 106% of nominal (Table 1, attached).

Throughout the test, the DO ranged from 7.7 to 9.3 mg/l or 73-84% of saturation. The pH values ranged from 7.4 to 8.0. Daily temperature readings ranged from 10.1 to 12.6°C (Table 3, attached). These temperature varied by more than 1°C in 10 of the 12 test chambers. Also, due to a failure of the water bath chiller unit, the temperature of the solution rose above 14°C for 5 to 6 hours between test days 1 and 2. The maximum temperature reached was 19°C.

No mortality occurred at any of the control or test levels during the 96 hours of the test. Also, no sublethal effects were observed. The 96-hour LC<sub>50</sub> for AC 299,263 was determined to be > 122 mg AI/L, and the 96-hour no-observed-effect-concentration (NOEC) was determined to be 122 mg AI/L.

- 13. STUDY AUTHOR'S CONCLUSIONS/QUALITY ASSURANCE MEASURES:**  
The author presented no conclusions other than the results mentioned above.

Quality Assurance and Good Laboratory Compliance Statements were included in the report, indicating that the study was conducted in accordance with EPA Good Laboratory Practice standards (40 CFR Part 160).

- 14. REVIEWER'S DISCUSSION AND INTERPRETATION OF STUDY RESULTS:**

**A. Test Procedure:** The test procedures were generally in accordance with the SEP, except that the temperatures of the test solutions were not adequately controlled. The SEP states that coldwater species should be tested

at 12°C and that the temperature should not vary more than one degree Centigrade during the entire test period. Daily temperature readings in this test ranged from 10.1 to 12.6°C. They varied by more than 1°C in 10 of the 12 test chambers. Also, due to a failure of the water bath chiller unit, the temperature of the solution rose above 14°C for 5 to 6 hours between test days 1 and 2. The maximum temperature reached was 19°C.

Considering there was no mortality in any of the test chambers, this guideline deviation probably had no effect the results of this study.

- B. Statistical Analysis: The reviewer concurs with the results reported by the authors.
- C. Discussion/Results: This study is scientifically sound and meets the guideline requirements for an acute toxicity test using a coldwater fish [guideline no. 72-1(c)]. Based on mean measured concentrations, the 96-hour LC<sub>50</sub> of AC 299,263 was >122 mg ai/L, classifying this chemical as practically nontoxic to the rainbow trout. The NOEC was 122 mg ai/l.
- D. Adequacy of the Study:
  - (1) Classification: Core.
  - (2) Rationale: N/A.
  - (3) Repairability: N/A.

15. COMPLETION OF ONE-LINER FOR STUDY: Yes, 6-16-93.